Homework Ch.5 –third

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Block \_\_\_\_\_\_\_\_\_\_\_

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1. If you put a drinking straw in water, place your finger over the opening, and lift the straw out of the water, some water stays in the straw. Explain.
2. As you increase the temperature of a gas in a sealed, rigid container, what happens to the density of the gas? Would the results be the same if you did the same experiment in a container with a movable piston at a constant external pressure? Explain?
3. If you release a helium balloon, it soars upward and eventually pops. Explain the behavior.
4. Explain the postulates of the kinetic molecular theory.
5. Rationalize the following observations.
   1. Aerosol cans will explode if heated.
   2. You can drink through a soda straw.
   3. A think-walled can will collapse when the air inside is removed by a vacuum pump.
   4. Manufacturers produce different types of tennis balls for high and low altitudes.